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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/431,365	11/01/1999	CARL G DEMARCKEN	09765/021001	8582
26161	7590	07/15/2005	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			PORTER, RACHEL L	
			ART UNIT	PAPER NUMBER
			3626	

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/431,365

Applicant(s)

DEMARCKEN, CARL G

Examiner

Rachel L. Porter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 3/14/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8, 27, 28 and 52-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 27, 28 and 52-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Notice to Applicant***

1. This communication is in response to the amendments received on 3/4/05.  
Claims 1-4,6-8 and 27-28, and 52-59 are pending.

***Claim Rejections - 35 USC § 112***

2. The rejection of claims 1-4,6-8 and 27-28, and 52-59 under 35 U.S.C. 112, second paragraph, is hereby withdrawn due to the amendment filed 3/14/04.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-8,27-28,54, and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (USPN 6,295,521-referred to hereinafter as DeMarcken '521) in view of Karch (USPN 6,442,537).

As per claims 1 and 2, DeMarcken'521 teaches a travel planning system comprising:

- a requirements generator module to generate a set of diverse travel requirements by establishing a plurality of travel requirement rule for each travel requirement (col. 50, lines 11-20) and for each travel requirement rule, defining a plurality of travel

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requirements corresponding to different values of travel requirements (col. 51, lines 20-43; col. 60, lines 56-col. 61, line 65)

- a selection module to output a set of diverse travel options, the number of travel options in the diverse travel options being fewer in number than the candidate set of travel options (col. 60, lines 56-col. 61, line 65) and selecting from the candidate set of travel options, for each diverse travel requirement in the plurality of diverse travel requirements, one or more travel options that satisfy that travel requirement, and wherein the candidate set of travel options is represented using a data structure that compactly stores the candidate set of travel options as a graph data structure (col. 4, lines 43-63; col. 5, line 25-col. 6, line 27; col. 45, lines 23-28)

DeMarcken teaches the use of travel requirements rules (DeMarcken; col. 3, line 55-col. 4, line 62) but fails to expressly teach defining a template of rules.

However, this feature is old and well known in the art, as evidenced by Karch's teachings wherein the rules are based at least in part on templates (Karch: col. 1, line 66-col. 2, line 6). At the time of the Applicant's invention it would have been obvious to one of ordinary skill in art to modify the system of DeMarcken with the teaching of Karch to include the feature of generating rule templates (e.g. for travel requirements). As suggested by Karch, one would have been motivated to include this feature to provide an efficient rules system that can learn and manipulate information, but does not result in significant degradation of performance through the use of extensive amounts processing power (Karch; col. 1, lines 38-42).

As per the limitations of claim 3, see DeMarcken'521: col. 4, lines 14-41.

As per claim 4, DeMarcken'521 teaches a travel planning system further comprising:

- a travel option generator module to generate a first ordered set of travel options using a first preference function and a second ordered set of travel options using a second preference function, and (col. 5, line 26-col. 6, line 6)
- wherein the selection module to output a set of diverse travel options by selecting a first and second number of travel options from each of the first and second ordered set of travel options. (col. 4, lines 43-col. 5, line 25; col. 49, line 30-col. 50, line 39; Figure 3)

As per claim 6, DeMarcken'521 teaches the travel planning system of claim 1 wherein at least one of the travel requirements within the plurality is not a user entered travel requirement. (col. 4, lines 1-14)

As per claims 7 and 8, DeMarcken'521 teaches the travel planning system of claim 1 wherein diverse travel requirements comprise at least one of: trips on a particular carrier, non-stop travel, outbound travel departing in a predefined time period (e.g. morning, afternoon, evening or a predefined date), return trips departing in a predefined time period, non-stop travel on a predefined airline, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date. (col. 17, line 20-col. 19, line 32)

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As per claim 27, DeMarcken'521 teaches the travel planning system of claim 1 wherein the compact data structure comprises a directed acyclic graph. (col. 5, line 25-col. 6, line 27)

As per claim 28, DeMarcken'521 teaches a travel planning system wherein the compact data structure comprises a grammar. (col. 45, lines 23-28)

As per claim 52, DeMarcken teaches a method for generating a diverse set of travel options, the method comprising:

- determining a candidate set of travel options, the candidate set of travel options being based on user input and represented using a data structure that compactly stores the candidate set of travel options; (col. 5, line 25-col. 6, line 6)
  - generating a diverse set of travel requirements/defining a plurality of travel requirements (col. 51, lines 20-43; col. 60, lines 56-col. 61, line 65)
  - selecting from the candidate set of travel options a travel option that satisfies that travel requirement; (col. 3, line 55-col. 5, line 35; col. 60, lines 56-col. 61, line 65)
  - combining the selected travel options for the travel requirements to generate the diverse set of travel options; and (Table 2; col. 9, line 54-col. 10, line 7; col. 15, lines 54-col. 17, line 19)
1. displaying the diverse set of travel options to a user. (col. 60, lines 56-col. 61, line 65)

DeMarcken teaches the use of travel requirements rules (DeMarcken; col. 3, line 55-col. 4, line 62) but fails to expressly teach defining a template of rules.

However, this feature is old and well known in the art, as evidenced by Karch's teachings wherein the rules are based at least in part on templates (Karch: col. 1, line 66-co1. 2, line 6). At the time of the Applicant's invention it would have been obvious to one of ordinary skill in art to modify the method of DeMarcken with the teaching of Karch to include the feature of generating rule templates (e.g. for travel requirements). As suggested by Karch, one would have been motivated to include this feature to provide an efficient rules system that can learn and manipulate information, but does not result in significant degradation of performance through the use of extensive amounts processing power (Karch; col. 1, lines 38-42).

As per claims 53, DeMarcken teaches a method for generating travel requirements (col. 3, line 55-col. 5, line 32) as explained in the rejection of claim 52, but does not expressly disclose the generation of template rules. However, the development and customizing a template of rules for a plurality of purposes is old and well known in the art, as evidenced by Karch. (Karch col. 1, line 66-co1. 2, line 6). At the time of the Applicant's invention it would have been obvious to one of ordinary skill in art to modify the method of DeMarcken with the teaching of Karch to generate rule templates wherein values for a particular travel requirement template are based on a candidate set of travel options. As suggested by Karch, one would have been motivated to include this feature to provide an efficient rules system that can learn and manipulate information, but does not result in significant degradation of performance through the use of extensive amounts processing power (Karch; col. 1, lines 38-42).

As per claim 54, DeMarcken teaches a method for generating travel requirements (col. 3, line 55-col. 5, line 32), including particular carriers, number of stops, outbound travel departing in a predefined time period, return travel departing in a predefined time period, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date. (col. 3, lines 43-51; col. 17, line 20-col. 19, line 32). DeMarcken does not expressly disclose the generation of template rules. However, the development and customizing a template of rules for a plurality of purposes is old and well known in the art, as evidenced by Karch. (Karch col. 1, line 66-co1. 2, line 6). At the time of the Applicant's invention it would have been obvious to one of ordinary skill in art to modify the method of DeMarcken with the teaching of Karch to generate rule templates which include particular travel limitations. (e.g. particular carriers, number of stops, outbound travel departing in a predefined time period, return travel departing in a predefined time period, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date). One would have been motivated to include this feature to provide an efficient rules system that can learn and manipulate information, but does not result in significant degradation of performance through the use of extensive amounts processing power (Karch; col. 1, lines 38-42) and to address the specific (e.g. travel) problem being solved. (Karch: col. 2, lines 14-23)

As per claim 56, the present claim repeats the subject matter of claim 29 as an article of manufacture encoding the instructions that cause a computer processor to perform the method of claim 52 rather than as a series of steps. As the underlying



process has been shown to be fully computer enabled and disclosed by the teachings of DeMarcken'521 in the above rejection of claim 52, it is readily apparent that the DeMarcken'521 reference includes an article of manufacture encoding the instructions that cause a computer to perform the recited functions. As such, these limitations are rejected for the same reasons provided in the rejection of claim 52 and incorporated herein.

The limitations of claim 57 are substantially similar to those of claim 53. As such the limitations of claim 57 are addressed by claims 53 and 56, and incorporated herein.

As per claim 58, the limitations of the present claim are addressed by the rejections of claims 54 and 56, and incorporated herein.

5. Claims 55 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken and Karch (USPN 6,442,537), in further view of Iyengar et al (USPN 6,360,205).

As per claim 55, DeMarcken and Karch in combination teach a method including the use of travel requirements templates, as explained in the rejection of claim 54, but do not expressly disclose that that the travel requirement template includes multiple (i.e. a first and second) carriers. Iyengar teaches a system/method wherein a travel requirements template includes a plurality of carriers. (Figures 6-10; col. 21, lines 10-18) At the time of the Applicant's invention, it would have been obvious to one of ordinary skill in the art to further modify the method of DeMarcken and Karch in combination with the teaching of Iyengar to include a plurality of carriers on the travel requirements

template. As suggested by Iyengar, one would have been motivated to include this feature to facilitate consumer access to the best prices (col. 2, lines 49-59) and to allow consumers to make meaningful comparisons among a number of travel service data sources (col. 4, lines 26-35).

As per claim 59, the limitations of the present claim are addressed by the rejection of claims 55 and 56, and incorporated herein.

### ***Response to Arguments***

6. Applicant's arguments filed 3/14/2005 have been fully considered but they are not persuasive.

(A) Applicant argues that the prior art of record fails to address the claim limitations because it does not include "diverse travel options" and "diverse travel requirements."

In response, it is respectfully submitted that the Applicant fails to realize the breadth of the terms used in the current claim language. Terms such as "diverse travel options" may encompass a plurality of meanings, including variations in itinerary (flight, date, airline, seat, time, type of plane); or even variation in the number of requirements entered or retrieved for traveler. While the Applicant has argued that the prior art does not teach the claimed "diverse travel options" and "diverse travel requirements", Applicant has not provided a definition within the specification or in the claim language to clarify or narrow to definition of these terms.

(B) Applicant argues that the use of Karch in combination with DeMarcken is an improper combination.

In response to applicant's argument that Karch is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Karch reference has been used to establish the fact that generating rule-based templates (to process vast amounts of information) is old and well known in the computer arts. Moreover, the Examiner has cited motivation to combine the references directly from the secondary reference.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel L. Porter whose telephone number is (571) 272-6775. The examiner can normally be reached on M-F, 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on (571) 272-6776. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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